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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/627,591 | 07/28/2000 | Hyun Jin Kim | EKM-74139 | 3648 |

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07/10/2003

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EXAMINER

BUTTNER, DAVID J

ART UNIT

PAPER NUMBER

1712

DATE MAILED: 07/10/2003

12

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/627,591

Applicant(s)

KIM ET AL.

Examiner

David Buttner

Art Unit

1712

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) 17-31, 37 and 39 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 9-14, 16, 32, 38 is/are rejected.
- 7) ☒ Claim(s) 5-8, 15 and 33-36 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) Z. 6) ☐ Other:

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Applicant's election without traverse of I in Paper No. 10 is acknowledged.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim 38 rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over the Li Patent.

Li blends (table 1) nanocomposite material of nylon/clay with an elastomer. The clay is made up of thin platelets (col. 6 line 33). Applicant's "For use in golf balls" is merely a future intended use.

Claims 1-4, 9-14, 16 and 32 are rejected under 35 U.S.C. 103(a) as obvious over the Sullivan '025 Patent optionally in view of the Encyclopedia of Chemical Technology or Encyclopedia of Polymer Science and Engineering.

Sullivan suggests fillers such as clay (col. 11 line 51) in the inner and outer cover layers of golf balls (col. 11 line 28). Coupling agents may be used to couple the filler to

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resin (col. 10 line 57). This qualifies as applicant's "reacted" limitation. The cover can be polyamide (col. 7 line 17).

Sullivan does not report the precise dimensions of his clay, but it is known that clays are "platey" (i.e., high L/D ratio) and can have a largest dimension within applicant's range (see Encyclopedia of Chemical Technology and Encyclopedia of Polymer Science). It appears many typical clays (treated with coupling agent) meet applicant's requirements. It would have been obvious to use such a clay in Sullivan's ball.

Claims 1-4, 9-14, 16 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Sullivan '025 Patent in view of Okada '411.

Sullivan suggests fillers such as clay (col. 11 line 51) in the inner and outer covers of golf balls (col. 11 line 28). The covers may be polyamide (col. 7 line 17). Sullivan does not teach applicant's preferred technique of combining the clay and polyamide into a "nanocomposite".

Okada teaches such a technique results in improved mechanical strength and toughness. Applicant apparently admits (page 7 line 14) that Okada produces the claimed nanocomposites.

It would have been obvious to use Okada's superior clay/polyamide nano composite as the clay/polyamide covers suggested by Sullivan.

Claims 5-8, 15 and 33-36 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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The art of record does not suggest the "reacted" inorganic filler of the claimed dimensions in the core of a golf ball.

Sullivan doesn't fairly suggest a combination of polyamide, a block polymer and specific phyllosilicate filler.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Buttner whose telephone number is 703-308-2403. The examiner can normally be reached on Weekdays from 10:00 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Dawson can be reached on 703-308-2340. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

DAVID J. BUTTNER
PRIMARY EXAMINER

D. Buttner/mn
July 9, 2003

